

## Course guide

# 820328 - RSE - Energy Sector Regulation

Last modified: 02/03/2026

**Unit in charge:** Barcelona East School of Engineering  
**Teaching unit:** 709 - DEE - Department of Electrical Engineering.

**Degree:** BACHELOR'S DEGREE IN ENERGY ENGINEERING (Syllabus 2009). (Compulsory subject).

**Academic year:** 2025    **ECTS Credits:** 6.0    **Languages:** Catalan

### LECTURER

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**Coordinating lecturer:** JORGE DE LA HOZ CASAS

**Others:** Primer quadrimestre:  
JORGE DE LA HOZ CASAS - Grup: M11, Grup: M12

Segon quadrimestre:  
JORGE DE LA HOZ CASAS - Grup: T11

### DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

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**Specific:**

CEENE-16. Formulate energy balances and identify losses.

CEENE-01. Knowledge of energy supply procurement systems.

**Transversal:**

1. SELF-DIRECTED LEARNING - Level 3. Applying the knowledge gained in completing a task according to its relevance and importance. Deciding how to carry out a task, the amount of time to be devoted to it and the most suitable information sources.

### TEACHING METHODOLOGY

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The teaching methodology is based on theoretical lectures combined with the development and resolution of real-world problems related to the subject matter of the course, with the aim of facilitating students' understanding of the concepts and their practical application.

### LEARNING OBJECTIVES OF THE SUBJECT

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The aim of the subject is to provide the basic knowledge of how the Spanish energy sectors are structured and managed, as well as a perspective on the regulatory framework for major activities of the various energy sectors.

### STUDY LOAD

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Type	Hours	Percentage
Hours large group	30,0	20.00
Hours medium group	30,0	20.00
Self study	90,0	60.00



Total learning time: 150 h

## CONTENTS

### (ENG) Introduction to Electricity Sector

**Description:**

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**Specific objectives:**

Energy targets  
Sector structure  
Economic framework  
Administrative control

**Full-or-part-time:** 4h

Theory classes: 4h

### (ENG) Power generation I

**Description:**

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**Specific objectives:**

Power generation as liberalized activity  
SES operation and economic mechanisms  
Power generation characteristics and economic consequences

**Full-or-part-time:** 4h

Theory classes: 4h

### (ENG) Power generation II

**Description:**

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**Specific objectives:**

Renewable energy policies and applied legal frameworks  
Control deficiencies and renewable energy promotion  
Renewable energy and retroactivity  
New renewable energy legal framework

**Full-or-part-time:** 4h

Theory classes: 4h



### (ENG) Regulated activities

**Description:**

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**Specific objectives:**

Legal framework and objectives  
Transmission and distribution activities  
The system operator  
The operator and the technical management

**Full-or-part-time:** 4h

Theory classes: 4h

### (ENG) Electricity markets

**Description:**

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**Specific objectives:**

Legal framework and objectives  
Whole sale market  
Retail market

**Full-or-part-time:** 4h

Theory classes: 4h

### (ENG) Introduction to the Natural Gas Sector

**Description:**

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**Specific objectives:**

Legal framework  
Infrastructure and management of the system  
The regulatory body  
Economic framework

**Full-or-part-time:** 4h

Theory classes: 4h

### PBL\_I

**Description:**

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**Full-or-part-time:** 60h

Laboratory classes: 15h

Self study : 45h



## PB\_II

### Description:

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**Full-or-part-time:** 60h  
Laboratory classes: 15h  
Self study : 45h

## Tests intended for the classroom

### Description:

These hours are intended to perform the various tests of continuous assessment associated with the contents of the course.

**Full-or-part-time:** 6h  
Theory classes: 6h

## GRADING SYSTEM

Throughout the course, students will progressively deepen their understanding of the main concepts of energy sector regulation (RSE) through a combination of theoretical lectures and problem-solving sessions. The theoretical contents and the problems will be organised into different thematic blocks.

The proposed problems aim to replicate the main real-world situations that students of the Degree in Energy Engineering may encounter in the professional environment when performing tasks related to energy sector regulation.

The assessment of the course will be carried out through several evaluation activities associated with the thematic blocks covered throughout the semester. Although the problems may be worked on in groups, the assessment tests or partial exams will be conducted individually.

There will be a minimum of four partial exams that may be held within the scheduled class hours. The dates of the partial exams (day and time) and the course planning will be available on Atenea. Each of these exams will have the same percentage weight in the final grade.

## BIBLIOGRAPHY

### Basic:

- Pérez-Arriaga, Ignacio J. Regulation of the Power Sector [on line]. 2a. London: Springer London, 2013 [Consultation: 11/06/2020]. Available on: <http://dx.doi.org/10.1007/978-1-4471-5034-3>. ISBN 9781447150343.